## REMARKS

Claims 1-9 and 11-18 stand rejected. Applicant has amended Claims 1, 5, 9, 11 and 16-18. Thus, Claims 1-9 and 11-18 are presented for reconsideration and further examination. Applicant respectfully requests entry of the amendments and following remarks.

***Drawings***

The drawings were objected to for failing to clearly depict the core region 22. In response, Applicant has added Figures 2A-2E to more clearly show the core region 22. Applicant respectfully submits that the new Figures 2A-2E are supported by the application as filed. For example, Figures 1 and 2 are perspective and plan views respectively of a pumping apparatus that includes the shaft illustrated in Figure 2A-2E. In addition, Figure 13 is an end view of a shaft 10 that has a continuous core region 22. Applicant respectfully submits that no new matter has been added by the amendment. Applicant respectfully submits that the objection has been overcome.

***Claim Rejections under 35 U.S.C. § 112, 2nd ¶***

Claim 9 was rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended Claim 9 and respectfully submits that the rejection has been overcome.

***Rejection under §35 U.S.C. §102(b) over Magnus (U.S. Patent No.5,558,507)***

The Examiner rejected independent Claim 5 as anticipated by U.S. Patent No. 5,558,507 to Magnus. Applicant respectfully submits that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *See* M.P.E.P. § 2131. Applicant respectfully traverses this ground for rejection.

U.S. Patent No. 5,558,507 to Magnus discloses a hose pump that has multiple stub shafts 8. Each stub shaft includes a recess 9 configured to receive a portion of the adjacent stub shaft 8. The hose pump in Magnus further includes a rotation-securing means to prevent the stub shafts from moving relative to one another. The rotation securing means is either a series of insertion pins 13 and holes 14 or the use of non-cylindrically shaped stub shafts 8. The pump of Magnus

with its axle and eccentric discs is highly complicated on account of the large number of individual parts which are fit together.

Amended Claim 5 is directed to a shaft for a pumping apparatus that includes, among other elements, "A one piece shaft ... , wherein the shaft is designed without a core shaft and essentially without a continuous core region or, for an increase in stability, with a thin continuous core region having a diameter between 3 mm and almost zero, the shaft having integral cam segments offset with respect to one another and contiguous to one another." (Emphasis added).

Magnus fails to disclose at least the recited structure noted above. Accordingly, Applicant respectfully requests reconsideration of Claim 5 as being anticipated by Magnus. Dependent Claims 6-9 each depend directly or indirectly from independent Claim 5, and thus is patentable for at least the same reasons that support the allowance of the claim from which it depends.

***Rejection under §35 U.S.C. §103(a) over Magnus (U.S. Patent No.5,558,507)***

The Examiner rejected independent Claims 1, 11, and 16-18 as being unpatentable over Magnus. Applicant respectfully traverses this ground for rejection. The office action admits that Magnus does not explicitly mention the ratio of the lamellae stroke to the lamellae height is 4:1 or a continuous region is 3mm or less. The office action cites no prior art to cure these deficiencies in Magnus.

Applicant submits that Magnus teaches away from the cited limitation. The Court of Appeals for the Federal Circuit has stated that a reference teaches away if a "person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference." Additionally, to support a rejection under 35 U.S.C. § 103(a), the Examiner may not "pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." Appellant submits that the Office Action has failed to give due consideration to the disclosure of Magnus that teaches away from the cited limitation.

Magnus teaches a pump that has a relatively wide, multi-piece, continuous core region made of multiple stub shafts. As illustrated in Figures 1 and 2 of Magnus, the ratio of lamella height (c) and lamella stroke (h) is about 6.4:1. With such a wide continuous core region, the

pump of Magnus can not achieve a "ratio between the lamella height (c) and lamella stroke (h) [that] is from about 4:1 to 1:1" as recited Claim 1.

Further, the office action states, "Magnus suggests assembling the shaft structure in whatever structure is required for varying squeezing contours resulting in varying squeezing contours resulting in varying pumping rates and amounts (see column 4, lines 28-36)." Applicant respectfully submits that the cited passage in Magnus does not suggest that to vary pumping rates and amounts the lamellae's stroke and height in Magnus may be changed. To the contrary, changing the lamellae's stroke and height of Magnus would not change the pumping amount assuming that the hose is fully expanded when the lamellae are retracted and the rotation speed is not changed. The complexity of the pump disclosed in Magnus precludes achieving the ratios achieved by Applicant's pump.

Even if it were permissible to "pick and choose" from the teachings of Magnus, Applicant's claims are not made obvious by Magnus because reducing the height of the lamellae would change the principle of operation of Magnus' pump. Where the proposed modification of the prior art changes the principle of operation of the prior art invention being modified, the teachings are not sufficient to render the claims *prima facie* obvious.

In the case at hand, Magnus's pump rotates the eccentric disks 7 so as to move the disks towards and away from the fluid tube. The ratio of lamella height (c) and lamella stroke (h) in Magnus could not be reduced to the claimed ratio by shortening the height of the lamella because the resulting pump would not "guide movement of the lamellae in both forward and backward directions" as recited in Claim 1. A shortened lamella could not wrap around the backside of the shaft. For the shaft to retract the lamellae, the height of the lamella must exceed the overall height of the cam segments.

Also, if the stroke of the lamellae were increased to reduce the ratio of lamella height (c) and lamella stroke (h) in Magnus, the height of the lamellae must also be increased to "guide movement of the lamellae in both forward and backward directions." Thus, accordingly, Magnus' principal of operation would be changed if the lamellae were shortened or the stroke was lengthened to achieve the claimed ratio since the resulting pump would not "guide movement of the lamellae in both forward and backward directions" as recited in Claim 1.

In addition to changing Magnus' principle of operation, Applicant submits that achieving a ratio closer to the claimed ratio would render Magnus' device unsatisfactory for its purpose of guiding the eccentric disks in both directions.

An advantage of the pump recited in Claim 1 is a low profile. Prior art pumping devices with small dimensions were not possible. In order to achieve acceptable flow rates, the prior art pumps had to employ large dimensions, such as in Magnus, which necessitated tall lamellae. However, for medical applications, large pumps were cumbersome since the patient had to carry the device on their person.

Magnus does not teach or suggest all of the limitations of the currently pending claims. In addition, as explained above, Magnus fails to disclose at least "a one-piece shaft with integral cams" as recited in Claims 1, 11, and 16-18.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent Claims 1, 11, and 16-18. Dependent Claims 2-4 and 12-15 each depend directly or indirectly from one of independent Claims 1 and 11, and thus is patentable for at least the same reasons that support the allowance of the claim from which it depends.

## CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims, and that those claims are in condition for allowance. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Additionally, any remarks referring to only a portion of a claim should not be understood to base patentability on solely that portion; rather, patentability must rest on each claim taken as a whole.

The undersigned has made a good faith effort to respond to all of the noted rejections and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain of if an issue requires clarification, the Examiner is respectfully requested to call Applicants' attorney in order to resolve any such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: Oct. 10, 2007

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